

Set A

Final examination:

ENT-102(2+1): Fundamentals of entomology  
Date & time of Exam: 03.11.2023 (10:30 ~12:30)Name of the Student ..... ID No. UHS22UG.....  
College of Horticulture, ..... College Code.....**Instructions to the Students:****Total marks: 50 (Part- A : 20 marks and Part- B : 30 marks)****Part - A Question paper: Answer within 30 min.***All answers should be written only in OMR Sheet.**Write the Correct Part-A Question paper Set Code in OMR sheet.**Get the signature of the invigilator on your Part- A QP.***Part- A****Q.I. Select the most correct answer A/B/C/D for the following questions. 20 x 0.5 mark = 10 Marks**

- A 1. Cuticle is secreted by  
 (a) Basement membrane (b) Epidermis (c) Both 'a' and 'b' (d) None
- B 2. The Johnston's organ is present on  
 (a) Scape  (b) Pedicel (c) Coxa (d) Trochanter
- D 3. Which of the following organs are involved in excretion  
 (a) Malpighian tubules (b) Integument  
 (c) Wall of the alimentary canal  (d) All of the above
- A 4. Piercing and Sucking mouthparts are found in  
 (a) Mosquitoes (b) Honey bees (c) Thrips (d) Butterflies
- C 5. In which type of head the mouthparts are directed backward between the front legs  
 (a) Hypognathous (b) Prognathous  
 (c) Ophisthognathous (d) None of these
- D 6. Which one of the following is an auditory membrane  
 (a) Spiracles (b) Pedicel (c) Cranium  (d) Tympanum
- B 7. Exocuticle and Endocuticle together form  
 (a) Procuticle  (b) Mesocuticle (c) Epicuticle (d) None of the above

**PART-B**

1. Signature of invigilator on answer booklet is compulsory.
2. All answers to the questions IV, V and VI should be written on appropriate pages only.

**Q IV. Answer any five (5) of the following questions 5 x 1 mark = 5**

1. Extra intestinal digestion
2. What is peritrophic membrane
3. What is plastron
4. Filter chamber
5. Apolysis
6. Phylum Arthropoda
7. Rectal pad

**Q V. Answer any five (5) of the following questions 5 x 2 mark = 10**

1. What is Metamorphosis
2. Digging leg of mole cricket
3. Differentiate between holometabolous & hemimetabolous insects?
4. Castes of termite
5. Orientation of insect head
6. Principle character of Insecta
7. Insect dominance

**Q VI. Answer any five (5) of the following questions 5 x 3 mark = 15**

1. Write down the classification of class Insecta upto orders according to A.D. Imms?
2. Describe the structure of a typical insect leg with a neat labelled diagram and mention different functions of insect leg.
3. Classify the respiratory system of insect on the basis of functional spiracle
4. Write the functions of saliva and mention the primary and secondary functions of Malpighian tubules.
5. Briefly discuss the mouthparts of female mosquito with neat labeled sketch.
6. Described the structures of an insect cuticle with a neat diagram.
7. State in brief the structure of alimentary canal with diagram

**END OF PART - A& B QUESTION PAPER 03 November, 2023**

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- 20 Arthropods evolved during  
 (a) Hemipneustic (b) Holopneustic  
 (c) Peripneustic (d) Protracheal

- 19 Respiratory system in which 1 mesothoracic and 8 abdominal spiracles  
 are functional is called  
 (a) Labrum (b) Right mandible  
 (c) Labial glands (d) Malpighian tubules

- 18 In trips the rasping and sucking mouth parts are asymmetrical due to  
 absence of  
 (a) Left mandible (b) Malpighian glands  
 (c) Head glands (d) Hypopharyngeal glands

17. Luciferin (responsible of light production in some insects) is  
 produced by  
 (a) Labial glands (b) Hypopharyngeal glands  
 (c) Head glands (d) None

16. In spittle bug (cercopids) the sticky substance is produced by  
 (a) Labiae (b) Lacinia (c) Mentum (d) Labial palp

15. In siphonung type of mouth parts proboscis is composed of-  
 (a) Proventriculus (b) Small intestine (c) Crop (d) Ventriculus

14. The expanded portion of the foregut just posterior to the

- (a) 8-10 (b) 7 (c) 5-6 (d) 6-8

13. Insect gut pH is  
 (a) Costa (b) Anterior Cubitus (c) Radius (d) Posterior Cubitus

12. Which of the following is not convex vein? - Epicuticle - Exocuticle  
 (a) Base ment membrane - Endocuticle - Epidermis - Exocuticle - Exocuticle - Epidermis

- (b) Epicuticle - Endocuticle - Exocuticle - Epidermis - Base ment membrane - Endocuticle - Epidermis

- (c) Exocuticle - Base ment membrane - Endocuticle - Epidermis - Exocuticle - Epidermis - Base ment membrane

- (d) Base ment membrane - Endocuticle - Exocuticle - Epidermis - Base ment membrane

11. Sequence of different layers of insect integument from outside

- (a) Caterpillar (b) Maggot (c) Nymph (d) Grub

10. The legs you are a housefly is known as  
 (a) Hexapod (b) Small size (c) Exoskeleton (d) Wings

9. The insects are able to maintain the balance while walking due to-  
 (a) Foregut (b) Midgut (c) Hindgut (d) Filter chamber

Q.11. Enter TRUE(T) / FALSE(F) for the following statements in OMR  
 sheet 10 x 0.5 = 5 Marks

21. Tentorialum is the internal skeleton of head for the attachment of the

muscles.

22. Insect are classified based on wings.

23. The number of segments in insect head is 5.

24. Halteres which maintain balance during flight are present in

Hemiptera.

25. The egg laying organ found in female insect is called cerci.

26. Juvenile hormone is secreted by corpora allata.

27. The main excretory product of insects is ammonia.

28. Degenerated ocelli of cockroach are known as fenestra.

29. Small hooks used to couple together fore and hind wings this type of

wing coupling mechanism is known as hamuli.

30. The outer covering of an insect egg is chorion.

Q.11. Match column A with column B for correct answer.  
 10 x 0.5 mark = 05 Marks

Q.No	Column A	Column B	
31	Aracnida	A	Millipedes
32	Chilopoda	B	Scorpions
33	Crustacean	C	Crabs
34	Trilobita	D	Greenhouse Centipedes
35	Diplopoda	E	Marine fossils
36	Chewring moth parts	F	Thrips
37	Piercing and sucking	G	Grasshopper
38	Rasping and sucking	H	Mosquitoes
39	Sponging	I	Butterflies
40	Siphoning	J	Housefly

E A C D H F I G B .